

**COMPENSATION SAMPLE AND HOLD FOR VOLTAGE REGULATOR
AMPLIFIER**

ABSTRACT

The problem of charge leakage in the AC compensation filter for the error amplifier of a pulse width modulation (PWM)-based DC-DC converter is effectively obviated by controllably sampling and storing the voltage across the AC compensation filter, in response to a transition of the operation of a DC power supply from run or active mode to quiescent or sleep mode. The sampled voltage is retained as a compensation voltage throughout the quiescent mode, so that it will be immediately available to the PWM circuitry at the termination of the quiescent interval. This serves to ensure a relatively smooth (low noise) power supply switch-over during a subsequent transition from quiescent to active mode.